



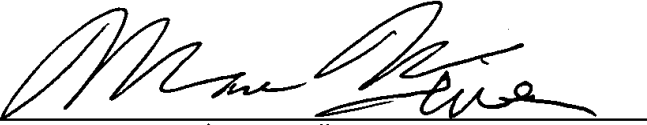


Appl. No. 09/617,433

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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(Rev. 09/02/02)



PATENT  
2870-0137P

IN THE U.S. PATENT AND TRADEMARK OFFICE

Applicants:	YASUDA, Shoji	Conf:	5348
Serial No.:	09/617,433	Group:	1752
Filed:	July 14, 2000	Examiner:	Chea, T.
Re:	THERMALLY PROCESSED IMAGE FORMING MATERIAL		

**BRIEF ON BEHALF OF APPELLANTS**

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## Table of Contents

Real Party in Interest .....	3
Related Appeals and Interferences .....	3
Status of the Claims .....	4
Status of the Amendments .....	4
Summary of the Invention .....	4
Issues for Consideration .....	5
Grouping of the Claims .....	5
Arguments on the Issues .....	6
Appendix I Claims on Appeal .....	14
Appendix II Declaration Under 37 C.F.R. § 1.132 .....	21

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**BRIEF ON BEHALF OF APPELLANTS**

Assistant Commissioner for Patents  
Washington, DC 20231

November 12, 2006  
(Tuesday after a holiday)

Sir:

The present Appeal Brief is respectfully submitted in connection with the above-identified application.

(1) REAL PARTY IN INTEREST

The Real Party in Interest of the present application is FUJI PHOTO FILM CO., LTD., Kanagawa, JAPAN, as evidenced by the Assignment recorded at REEL/FRAME 011241/0967.

## (2) RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

**(3) STATUS OF THE CLAIMS**

Claims 1 and 3-10 are pending in the application and stand rejected per the Final Office Action of March 13, 2002 and Advisory Action of September 27, 2002. Claims 1, and 3-10 stand appealed.

**(4) STATUS OF THE AMENDMENTS**

All responses and amendments have been entered for consideration. The response and Declaration submitted on September 11, 2002, which were initially refused entry per the Advisory Action of September 27, 2002, were subsequently entered and considered during the interview of October 16, 2002.

**(5) SUMMARY OF THE INVENTION**

The present invention is drawn to a product-by-process. Specifically, the present invention is drawn most broadly to a thermally processed image forming material containing elsewhere on a support a reducing agent, a binder and non-photosensitive fatty silver salt grains

wherein the non-photosensitive fatty acid silver salt grains are prepared by mixing and reacting

a silver ion-containing solution, the solvent of which is water or a mixture of water and an organic solvent, with

a solution of a fatty acid alkali metal salt, the solvent of which is water, an organic solvent, or a mixture of water and an organic solvent,

in a closed mixing means.

One aspect of the patentability of the present invention lies in the process by which the non-photosensitive fatty acid silver salt grains are prepared; specifically by mixing and reacting the components in a closed mixing means.

#### **(6) ISSUES FOR CONSIDERATION**

Whether Appellant has adequately demonstrated that the product made by the recited process, is different from and superior to the product of the cited prior art references, particularly of EP 0 887 701 (hereinafter referred to as "EP '701").

#### **(7) GROUPING OF THE CLAIMS**

The claims on appeal stand together.

**(8) ARGUMENTS ON THE ISSUES**

Claims 1, 3, and 5-9 have been rejected under 35 U.S.C. § 102(a)/103 as being anticipated by or obvious over EP '701. Claim 10 has been rejected under 35 U.S.C. § 103 as being obvious over EP '701 combined with WO 97/34196 (hereinafter referred to as "WO '196"). Claim 4 has been rejected under 35 U.S.C. § 102(a)/103 as being anticipated by or obvious over EP 021433 (hereinafter referred to as "EP '433") or WO '196.

The present invention is most broadly encompassed by claim 1, which recites a thermally processed image forming material containing elsewhere on a support a reducing agent, a binder and non-photosensitive fatty silver salt grains

wherein the non-photosensitive fatty acid silver salt grains are prepared by mixing and reacting

a silver ion-containing solution, the solvent of which is water or a mixture of water and an organic solvent, with

a solution of a fatty acid alkali metal salt, the solvent of which is water, an organic solvent, or a mixture of water and an organic solvent,

in a closed mixing means.



Thus, the present invention is drawn to a product, which is defined by the process by which it is made. Specifically, the product of the present invention requires the presence of non-photosensitive fatty acid silver salt grains that are prepared by mixing and reacting a silver ion-containing solution and a solution of a fatty acid alkali metal salt in a closed mixing means. An invention may be defined "in terms of the process." In re Bridgeford, 357 F.2d 679, 682, 149 USPQ 55, 58 (C.C.P.A. 1966). The process by which a product is made may be used as a patentable feature defining the invention, if the resulting product is novel and unobvious because of the recited process. With the present invention, the use of a closed mixing means results in a different and superior product than that of the prior art.

As noted above, present claims specifically require that the product be made using a closed mixing means. EP '701 discloses the use of conventional methods, i.e. open mixing, for producing non-photosensitive fatty acid silver salt grains. By using the recited process of claim 1, the resulting product has unique properties compared to the product of EP '701.

In the response of September 11, 2002, Appellant submitted under 37 C.F.R. § 1.132, a Declaration of Inventor Shoji YASUDA, a copy of which is attached hereto as Appendix II. In the experiments of the Declaration, an organic silver salt dispersion "A" was prepared in accordance with the teachings set forth on page 20, lines 40-55 of EP '701. In addition, "organic silver dispersion "A'" was prepared in the same manner except that the addition of the silver nitrate aqueous solution and the subsequent agitation were conducted in a closed mixing means," in accordance with the present invention.

Using Dispersions A and A', photothermographic materials (Samples 18-23) were prepared in accordance with Example 1 of the specification. The data of the Table of the Declaration, demonstrates that Samples 21-23 (Dispersion A'), prepared using a closed mixing means in accordance with the present invention, possessed superior properties, as evidenced by the reduced Dmin. and superior surface quality (Ranked "B" for the present invention compared to "D" for the sample of EP '701), when compared to Samples 18-20 (Dispersion A), prepared using an open mixing means of EP '701. The Table of the Declaration also contains the data of Table 2 of the specification.

The relevant data from the Table of the Declaration with the photothermographic materials containing non-photosensitive fatty acid silver salt grains prepared in a closed mixing means required by the present invention compared to photothermographic materials containing non-photosensitive fatty acid silver salt grains prepared in an open mixing means, as taught by EP '701 is reproduced below.

Sample No.	Organic acid silver salt dispersion	Nucleation Aid	Photographic property		Surface Quality *	Remarks
			Dmin	Dmax		
18	Dispersion A	—	0.21	2.06	D	EP '701
19	Dispersion A	A	0.21	3.48	D	EP '701
20	Dispersion A	62	0.19	4.46	D	EP '701
21	Dispersion A'	—	0.16	2.10	B	Invention
22	Dispersion A'	A	0.17	3.61	B	Invention
23	Dispersion A'	62	0.15	4.55	B	Invention

\*Evaluation of Surface Quality (from page 93 of the specification): The obtained sample was visually checked for the coated surface property (surface quality) and classified into the four following ranks, among which only ranks "A" and "B" were practically suitable:

"A" = good

"B" = good at the center portion; irregular at both edges;

"C" = slight failure over the entire surface (coating streaks, agglomeration, crack, non-uniform drying); and

"D" significant failure over the entire surface (coating streaks, agglomeration, crack, non-uniform drying)

Thus, the product of the present invention, when prepared in accordance with the recited process, possesses distinct properties that distinguish the product of the invention from that of EP '701. As such, the product of the present invention, which is different from the product of EP '701, due to the process used to make the product, is not anticipated by the reference.

In addition, the present product possesses unexpected advantageous properties compared to the product of EP '701, such that the present product is not obvious over the disclosure of EP '701.

In the Interview of October 16, 2002, the Examiner indicated, after consideration of the Declaration that,

The Declaration under 37 CFR 1.132 filed on 9/11/02 is entered by the examiner. However, the examiner believes that the declaration is insufficient to overcome the rejections set forth in the office action of record. The applicants fail to show as to why the organic silver salt made by the closed mixing means differs from that known in the art.

Thus, the Examiner's position appears to be that it is irrelevant whether Appellant has shown that the claimed product is distinct from and possesses superior properties over the prior art product because Appellant has not shown on a

chemical/structural level why non-photosensitive fatty acid silver salt prepared as recited in claim 1 are different and superior. However, the Examiner is applying an incorrect standard regarding anticipation and non-obviousness. "[A]n inventor need not comprehend the scientific principles on which the practical effectiveness of his invention rests." Fromson v. Advance Offset Plate, Inc., 720 F.2d 1565, 1570, 219 USPQ 1137, 1140 (Fed. Cir. 1983) (citing, Diamond Rubber Co. v. Consolidated Rubber Tire Co., 220 U.S. 428, 435-36, 31 S. Ct. 444, 447 (1911)).

The invention of claim 1 is drawn to a thermally processed image forming material containing, in part, a non-photosensitive fatty silver salt grains prepared in a closed mixing means. Appellant has shown that a thermally processed image forming material of the invention possesses different properties from the prior art material. As such, the present invention has been shown to be distinct from the prior art. In addition, the present invention has been shown to possess superior properties over the prior art. As such, the invention has been shown to be non-obvious over the prior art.

Claim 10 has been rejected as being obvious over EP '701 combined with WO 97/34196 (WO '196). As discussed above, the products of the present invention are distinct from the products of EP '701 because of the use of a closed mixing means to make the non-photosensitive fatty acid silver grains. The WO '196 reference is relied on for generally teaching the inclusion of nucleating agents. WO '196 fails to teach or suggest the preparation of non-photosensitive fatty acid silver grains using a closed mixing means. As such, WO '196 fails to make up for the deficiencies of EP '701 and the invention of claim 10 is not achieved by combining the references.

Claim 4 has been rejected under 35 U.S.C. § 102(a)/103 as being anticipated by or obvious over EP 021 433 or WO 97/341196. On page 4 of the Office Action of March 13, 2002, the Examiner acknowledges that the references fail to teach the use of a closed mixing means in the preparation of the materials. As discussed above, the use of a closed mixing means results in a different product, which is distinct from and possesses unexpected improved properties compared to materials made with an open mixing means. As such, the material of claim 4 is

distinct from and not obvious over the materials of EP '433 and WO '196.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Appendices: I - Claims on Appeal  
II - Declaration of Shoji YASUDA

CLAIMS ON APPEAL

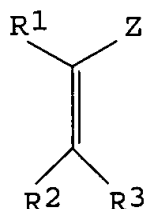
1. (Amended) A thermally processed image forming material containing elsewhere on a support a reducing agent, a binder and non-photosensitive fatty silver salt grains characterized in that the non-photosensitive fatty acid silver salt grains are prepared by mixing and reacting a silver ion-containing solution, the solvent of which being water or a mixture of water and an organic solvent, with a solution of a fatty acid alkali metal salt, the solvent of which being water, an organic solvent, or a mixture of water and an organic solvent, in a closed mixing means.

3. (Amended) The thermally processed image forming material as claimed in Claim 1, wherein the non-photosensitive fatty silver salt grains are prepared by cooling a reaction mixture obtained after the reaction proceeded within the closed mixing means.

4. (Amended) A thermally processed image forming material containing elsewhere on a support a reducing agent, a binder and non-photosensitive fatty silver salt grains characterized in

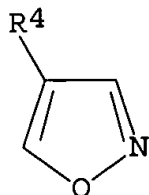


that the non-photosensitive fatty acid silver salt grains are prepared by micro-dispersing the reaction mixture at an operating pressure of 1,800 kg/cm<sup>2</sup> or above using a ultrahigh pressure dispersion apparatus, the nucleation aid being at least any one of a compound selected from the group consisting of a substituted alkene derivative expressed by the general formula (1) below, a substituted isooxazole derivative expressed by the general formula (2) below, and an acetal derivative expressed by the general formula (3) below:



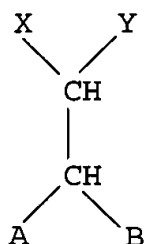
(1)

(where, R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> independently represent a hydrogen atom or substituent; Z represents an electron attracting group or silyl group; and, R<sup>1</sup> and Z, R<sup>2</sup> and R<sup>3</sup>, R<sup>1</sup> and R<sup>2</sup>, or R<sup>3</sup> and Z may individually bind with each other to form a cyclic structure),



(2)

(where, R<sup>4</sup> represents a substituent), and



(3)

(where, X and Y independently represent a hydrogen atom or substituent; A and B independently represent alkoxy group, alkylthio group, alkylamino group, aryloxy group, arylthio group, anilino group, heterocyclic oxy group, heterocyclic thio group or heterocyclic amino group; and, X and Y, or A and B may individually bind with each other to form a cyclic structure).

5. (Amended) A thermally processed image forming material containing elsewhere on a support a reducing agent, a binder and non-photosensitive fatty acid silver salt grains characterized in that the non-photosensitive fatty acid silver salt grains are

prepared by (1) mixing and reacting a silver ion-containing solution, the solvent of which being water or a mixture of water and an organic solvent, with a solution of a fatty acid alkali metal salt, the solvent of which being water, an organic solvent, or a mixture of water and an organic solvent, in a closed mixing means, and then (2) micro-dispersing the reaction mixture at an operating pressure of 1,800 kg/cm<sup>2</sup> or above using a ultrahigh pressure dispersion apparatus.

6. The thermally processed image forming material as claimed in Claim 4, wherein the micro-dispersion using the ultrahigh pressure dispersion apparatus is effected in a ultrahigh pressure jet flow.

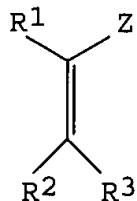
7. (Amended) The thermally processed image forming material as claimed in Claim 1, wherein a photosensitive silver halide is additionally contained.

8. (Amended) The thermally processed image forming material as claimed in Claim 1, wherein the non-photosensitive fatty silver salt grains and the binder are contained in an

image producing layer, and a polymer latex having a glass transition point of -30 to 40 comprises 50 wt% or more of the binder.

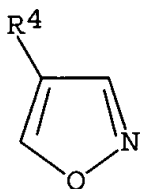
9. (Amended) The thermally processed image forming material as claimed in Claim 1, wherein at least a single species of nucleation aid is contained in at least one layer provided on the same side of the image producing layer on the support.

10. The thermally processed image forming material as claimed in Claim 9, wherein the nucleation aid is at least any one of a compound selected from the group consisting of a substituted alkene derivative expressed by the general formula (1) below, a substituted isooxazole derivative expressed by the general formula (2) below, and an acetal derivative expressed by the general formula (3) below:



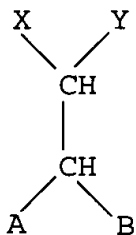
(1)

(where,  $R^1$ ,  $R^2$  and  $R^3$  independently represent a hydrogen atom or substituent; Z represents an electron attracting group or silyl group; and,  $R^1$  and Z,  $R^2$  and  $R^3$ ,  $R^1$  and  $R^2$ , or  $R^3$  and Z may individually bind with each other to form a cyclic structure),



(2)

(where,  $R^4$  represents a substituent), and



(3)

(where, X and Y independently represent a hydrogen atom or substituent; A and B independently represent alkoxy group, alkylthio group, alkylamino group, aryloxy group, arylthio group, anilino group, heterocyclic oxy group, heterocyclic thio group or heterocyclic amino group; and, X and Y, or A and B may individually bind with each other to form a cyclic structure).